

# EASTERN WA MODEL WATERSHED COORDINATORS

9202602

## SHORT DESCRIPTION:

Fund resource coordinator positions for the implementation phase of the Asotin Creek, Pataha Creek, and Tucannon River Model Watersheds Plans.

## SPONSOR/CONTRACTOR: WSCC

Washington State Conservation Commission

Bob Bottman, Grants Officer

PO Box 47721, Lacey, WA 98504-7721

360/407-6204

bbot461@ecy.wa.gov

## SUB-CONTRACTORS:

Asotin Conservation District -- Asotin Creek Model

Watershed CoordinatorPomeroy Conservation District --

Pataha Creek Model Watershed CoordinatorColumbia

Conservation District -- Tucannon River Model Watershed

Coordinator

---

## GOALS

### GENERAL:

Supports a healthy Columbia basin, Increases run sizes or populations, Provides needed habitat protection

### WATERSHED:

Coordination

### NPPC PROGRAM MEASURE:

7.7B.1; 7.7B.2;7.7B.3

### RELATION TO MEASURE:

The project relates to 7.7B.1 in that it provides for the continuation of the model watershed coordinator positions in the Asotin Creek, Pataha Creek and Tucannon River Model Watersheds. The project relates to 7.7B.2 and 7.7B.3 in the following manner: The following problems were identified in the three model watersheds during watershed analysis and are addressed in the plans: High stream temperature; lack of resting and rearing pools containing large woody debris; sediment deposition in spawning gravel; and high fecal coliform counts. All three model watersheds implemented projects during 1996 which addressed limiting habitat factors for salmon in their respective watersheds. Each implemented best management practices (BMPs) on private cropland and rangeland to reduce sediment deposition. Working relationships between each conservation d

### TARGET STOCK

Snake River Steelhead, and Bull Trout (Tucannon)

Snake River Steelhead and Bull Trout (Pataha)

Snake River Steelhead and Bull Trout (Asotin)

Snake River Spring Chinook, Fall Chinook  
(Tucannon)

Snake River Spring Chinook (Pataha)

Snake River Spring Chinook (Asotin)

### LIFE STAGE

Adult and juvenile

Adult and juvenile

Adult and juvenile

Adult and juvenile

Adult and juvenile

Adult and juvenile

### MGMT CODE (see below)

(P)

(P)

(P)

(L)

(L)

(L)

### AFFECTED STOCK

Rainbow trout and Rough Fish (Tucannon)

Rainbow trout and Rough Fish (Pataha)

Rainbow trout and Rough Fish (Asotin)

### BENEFIT OR DETRIMENT

Beneficial

Beneficial

Beneficial

---

## BACKGROUND

### STREAM AREA AFFECTED

#### Stream name:

Asotin CreekPataha CreekTucannon River

### LAND AREA INFORMATION

#### Subbasin:

Asotin Creek (Asotin )Tucannon River (Pataha)Tucannon River  
(Tucannon)

#### Stream miles affected:

#### Land ownership:

20 miles (Asotin)40 miles (Pataha)50 miles  
(Tucannon)

**Hydro project mitigated:**

Lower Granite Dam (Asotin)Lower Monument Dam  
(Pataha, Tucannon)

Public & Private (Asotin)Public & Private (Pataha)Public & Private  
(Tucannon)

**Acres affected:**

60,000 acres approximately affected of 208,260 watershed acres  
(Asotin)35,000 acres approximately affected of 118,388 watershed  
acres (Pataha)60,000 acres approximately affected of 203,520  
watershed acres (Tucannon)

**Habitat types:**

UPLAND: wetlands, cropland, rangeland, forestland (Asotin, Pataha,  
Tucannon)RIPARIAN CORRIDOR: white fir, ponderosa pine,  
cottonwood, alder and willow (Asotin, Pataha,  
Tucannon)INSTREAM: pools, riffles, runs, glides and large woody  
debris (Asotin, Pataha, Tucannon)

**HISTORY:**

diment basin repair.In each project area, increased information-education activities play an important part in exposing more  
people in the local community to the unique problems and issues of their watersheds. These outreach efforts also demonstrate the  
widely differing viewpoints and needs of the individuals and groups brought together by the CRM process.Finally, riparian  
plantings totaling 10 miles have been completed in the three watersheds.

**BIOLOGICAL RESULTS ACHIEVED:**

Data that is currently being collected in the three model watersheds can only be compared to incomplete data that was taken  
before the plans were developed. By the year 2000, a reliable water quality monitoring data base will be in place and biological  
results will be available. In addition, evaluation of the fisheries in future years will be utilized to assess project effectiveness.1996  
was the first year of habitat project implementation in the three model watersheds. Implementation projects are currently being  
evaluated for effectiveness.

**PROJECT REPORTS AND PAPERS:**

The Asotin Creek Model Watershed plan was completed and published in April 1995. Draft watershed plans for the Pataha  
Creek and Tucannon River watersheds are expected in the spring of 1997. Quarterly progress reports will be sent to BPA and the  
Conservation Commission. GIS databases and accompanying maps for each watershed; technical project designs for each project;  
biological assessments for each project; and complete resource inventory reports for all three watersheds will also be submitted.

**ADAPTIVE MANAGEMENT IMPLICATIONS:**

During FY 1998, implementation of projects within the Asotin Creek, Pataha Creek, and Tucannon River Model Watersheds will  
continue. The use of Coordinated Resource Management Planning (CRMP) principles in establishing and operating the LSC and  
TACs has produced plans that are scientifically sound and locally accepted. The decision early on to use conservation district-  
based watershed coordinators has also proven to be a good one, giving the projects a high degree of credibility and acceptance  
with local landowners and users. The use of district staff has also given Washington State, through the Conservation  
Commission grants program, a means of insuring an appropriate degree of uniformity and efficiency in program and budget  
administration. Model watershed staff continue to use existing district communication channels and meeting schedules (e.g.  
Washington Association of Conservation Districts [WACD] area and annual meetings) to promote and publicize their work, as  
well as coordinate with each other. Finally, communication and working relationships among the coordinators, cooperating  
agencies, and landowners has been excellent. This derives from the conservation districts' historical role as centers for targeting  
NRCS technical assistance to locally identified natural resource issues.

---

## PURPOSE AND METHODS

**SPECIFIC MEASUREABLE OBJECTIVES:**

Measurable objectives include a decrease in water temperatures; a reduction in sediment delivery to the waterways; lower fecal  
coliform levels; and an increase in available spawning area and fish habitat.

## CRITICAL UNCERTAINTIES:

Sources of funding are uncertain at this time. Continuity of funding is critical to keep the momentum of comprehensive watershed management moving forward; otherwise, the long-term commitment from all local, state and regional entities may be stalled. Obtaining permits in a timely fashion is also a concern. Improvements should be made in the permitting process to ensure that needed permits are issued in a timely manner. Once permitted, projects must be designed to specification, implemented according to design, and completed within the established time frame. Landowner buy-in is also critical to the success of these projects. Landowners must be willing to cooperate, and also agree to the maintenance standards while still feeling that there is a benefit from the proposed practice.

## BIOLOGICAL NEED:

These three watersheds have been significantly and adversely impacted by human activities and catastrophic natural events, such as floods and droughts. Only remnant salmon and trout populations use these waters, and are much smaller than in earlier years. Increasing salmonid productivity will require protection and restoration of fish habitat and the adjacent riparian corridor. The barriers include high stream temperatures, lack of quality resting and rearing pools, excessive sediment deposition in spawning gravel, and high fecal coliform levels. To most effectively restore fish habitat, the projects addressing these barriers must be coordinated.

The responsibility of the model watershed coordinators is to see to it that the proper permits are obtained; construction designs are completed on time and meet established specifications; the public is informed and educated about the importance and health of their watersheds; and that relationships among landowners, agencies, and conservation district personnel remain in positive working order.

## HYPOTHESIS TO BE TESTED:

The primary goal of the three model watershed projects is to increase fisheries and restore the Snake River spring Chinook, Snake River fall Chinook, summer steelhead, and bull trout. The model watershed process has identified many practices, including in-stream, riparian, and upland, which must be installed to meet this goal. Success will be based on the number of practices installed and maintained.

## ALTERNATIVE APPROACHES:

Meeting landowner needs and obtaining agency acceptance are both crucial to project success. Biological objectives are more easily accomplished through a voluntary approach with the conservation districts than through regulation by a state or federal agency.

## JUSTIFICATION FOR PLANNING:

Not applicable. Coordination of BMP implementation Asotin Creek, Pataha Creek, and the Tucannon River is the primary focus for this project. The three model watersheds involve three conservation districts (Asotin, Pomeroy, and Columbia) and utilize three watershed coordinators.

## METHODS:

The three model watersheds will experiment with many different types of biological engineering designs. These include: root wads, large woody debris placement, point barbs, off-site stock watering devices, planting trees for bank stabilization, and off-channel rearing ponds. Monitoring and evaluation will produce data which will be compared to data collected in recent surveys. Presently, reintroduction of fish into streams in any of these watersheds is prohibited by law. In 1996, the three watershed projects installed root wads, root wad revetments, rock barbs, rock vortex weirs, log weirs, log barbs, off channel rearing sites, off site watering facilities and streambank stabilization through vegetative plantings and bio-engineering.

---

## PLANNED ACTIVITIES

### SCHEDULE:

<b>Planning Phase</b>	<b>Start</b> 1995	<b>End</b> Ongoing	<b>Subcontractor</b> Columbia Conservation District
<b>Task</b> Complete the Tucannon River Model Watershed Plan by spring of 1997, and begin implementation.			
<b>Planning Phase</b>	<b>Start</b> 1995	<b>End</b> Ongoing	<b>Subcontractor</b> Pomeroy Conservation District
<b>Task</b> Complete the Pataha Creek Model Watershed Plan by spring of 1997, and begin implementation.			

<b><u>Planning Phase</u></b>	<b><u>Start</u></b> 1995	<b><u>End</u></b> Ongoing	<b><u>Subcontractor</u></b> Asotin Conservation District
<b><u>Task</u></b> Implement the completed Asotin Creek Model Watershed Plan			
<b><u>Implementation Phase</u></b>	<b><u>Start</u></b> 1995	<b><u>End</u></b> 2001	<b><u>Subcontractor</u></b> Columbia Conservation District
<b><u>Task</u></b> Implement practices in the Tucannon River watershed to reduce sedimentation, increase resting and rearing pools, decrease stream temperature, improve fish habitat, and decrease coliform levels. Using bio-engineering practices and landowner cooperation, specific projects, project sites and costs are being developed. As the watershed plan for the Tucannon River watershed is finalized, the locations and numbers of practices will be finalized. The scope of projects completed will be determined by available funding.			
<b><u>Implementation Phase</u></b>	<b><u>Start</u></b> 1995	<b><u>End</u></b> 2001	<b><u>Subcontractor</u></b> Pomeroy Conservation District
<b><u>Task</u></b> Implement projects on Pataha Creek for reduction of sedimentation and lower water temperatures including: construction of equipment creek crossing, streambank stabilization projects, riparian management through vegetation planting, riparian buffer strips and fencing, off-channel watering devices, implementation of more upland conservation practices such as terrace, waterway, and sediment basin construction, and no-till seeding and grass plantings. Instream structures for increased fish habitat include: construction of log and rock weirs. As the watershed plan for the Pataha Creek watershed is finalized, the locations and numbers of practices will be finalized. Additional project implementation will depend on available funding.			
<b><u>Implementation Phase</u></b>	<b><u>Start</u></b> 1995	<b><u>End</u></b> 2001	<b><u>Subcontractor</u></b> Asotin Conservation District
<b><u>Task</u></b> Continue implementation of the Asotin Creek Model Watershed Plan. Major limiting factors, and solutions include: 1) Lack of quality resting and rearing pools -- 158 in-stream structures; 2) High water temperatures -- struction, 36,000 feet of vegetative plantings, and 23,760 feet of riparian fencing; 3) Excessive sediment -- 26,400 feet of fencing, 4 wells, 26,400 feet of trails, 16,000 acres of weed control, 6 spring developments, 6 ponds, 150,000 feet of terrace, 50 sediment basins, 5 acres of filter strips, 5 acres of grassed waterway, and 5 acres of forestland plantings; and 4) Elevated fecal coliform levels -- 21,000 feet of fencing, 5 acres of filter strips, 4 spring developments, and 2 wells. Completion of these tasks depends on landowner cooperation and availability of funds.			
<b><u>O&amp;M Phase</u></b>	<b><u>Start</u></b> 1997	<b><u>End</u></b> 2001	<b><u>Subcontractor</u></b> Columbia Conservation District
<b><u>Task</u></b> Evaluate Tucannon River habitat projects that were damaged by the 1996-97 winter flooding. The river habitat projects received some flood damage. All projects requiring repairs will be repaired/modified to better serve their intended purposes. As projects are implemented, O&M will increase because protection of the initial investment is crucial for project success. Flood damage repairs are separate from O&M costs but are critical to maintaining structural integrity.			
<b><u>O&amp;M Phase</u></b>	<b><u>Start</u></b> 1997	<b><u>End</u></b> 2001	<b><u>Subcontractor</u></b> Pomeroy Conservation District
<b><u>Task</u></b> Evaluate Pataha Creek habitat projects that were damaged by the 1996-97 winter flooding. The creek sustained some damage from flooding. Of four BPA implementation sites, one bank stabilization project received major damage and will require extensive repair while the other three sites require only minor repair. As projects are implemented, O&M will increase because protection of the initial investment is crucial for project success. Flood damage repairs are separate from O&M costs but are critical to maintaining structural integrity.			
<b><u>O&amp;M Phase</u></b>	<b><u>Start</u></b> 1997	<b><u>End</u></b> 2001	<b><u>Subcontractor</u></b> Asotin Conservation District
<b><u>Task</u></b> Evaluate Asotin Creek habitat projects that were damaged by the 1996-97 winter flooding. Prioritization of completed projects will access what projects will be repaired and what projects will be used as learning tools for further creek projects. Of the seven BPA projects completed in 1996, all are functioning as designed, but repairs are needed on two flood damaged sites. As projects are implemented, O&M will increase because protection of the initial investment is crucial for project success. Flood damage repairs are separate from O&M costs, but are critical to maintain structural integrity.			

#### **PROJECT COMPLETION DATE:**

2005

#### **CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:**

Lack of funding is certainly a factor. Continuity of funding is critical to keep the momentum of comprehensive watershed management moving forward; otherwise, the long-term commitment from all local, state and regional entities may be stalled. Constraints include: receiving needed permits in a timely manner, availability of knowledgeable contractors, heavy workload on NRCS engineers, and the limited time window for needed work. Any one of these constraints may cause schedule or

budget changes.

---

## OUTCOMES, MONITORING AND EVALUATION

### SUMMARY OF EXPECTED OUTCOMES

#### **Present utilization and conservation potential of target population or area:**

The present Upper Snake River Chinook Salmon population has reached dangerously low levels due to several factors. The combined watershed habitat conservation and restoration projects in the three model watersheds will enhance overall fisheries habitats. If sufficient target species return to the watersheds, fish population increases are possible.

#### **Assumed historic status of utilization and conservation potential:**

Historically, Spring Chinook Salmon were present in Asotin Creek and the Tucannon River. The Tucannon River still supports a small run of salmon, but the fish returning to Asotin Creek have reached low levels of returning spawners. Historically, sufficient habitat was available throughout the watersheds but, over the years, many factors have contributed to loss of habitat.

#### **Long term expected utilization and conservation potential for target population or habitat:**

The long term expected/desired utilization and conservation potential for the target population or target habitat type in all three model watersheds is to restore and enhance habitat to a level capable of sustaining increased populations of adults and juvenile salmonids.

#### **Contribution toward long-term goal:**

In the long run, the three model watersheds will provide a sustainable habitat for Spring Chinook, Bull Trout, Summer Steelhead, and on the Tucannon River, Fall Chinook.

#### **Indirect biological or environmental changes:**

Ultimately, if all enhancement and restoration goals of the model watershed plans can be met, the watersheds' ecosystems will be improved.

#### **Physical products:**

Specific measurable objectives for the three model watersheds began in 1996 with implementation of habitat enhancement projects. Activities will continue specific to the individual model watershed plan. Asotin Creek -- 7 BPA early action projects that included the following implementation activities: 13 root wads; 10 rock barbs; 8 boulder placements; 4 log barbs; 3 large woody debris placements; and 3 vortex rock weirs. Pataha Creek -- 9 BPA early actions projects that included the following implementation activities: 2 off-site watering facilities; 3 stream bank stabilization projects; 1.5 miles riparian fencing; 15.2 acres riparian buffer strip; 1 fish passage removal; and 1 stream crossing improvement. Tucannon River -- 7 BPA early action projects that included the following implementation activities: 8 rock vortex weirs; 8 rock barbs; 81 root wad/revetments for streambank stabilization; and 1 sediment basin repair.

#### **Environmental attributes affected by the project:**

Implementation of BMPs in the three model watersheds has resulted in: reduced sedimentation, reduced water temperature, and increased instream fish habitat.

#### **Changes assumed or expected for affected environmental attributes:**

Expected near and long term changes are not noticeable in the watersheds. Over time, additional protection and enhancement measures must be implemented to positively impact the watersheds. These efforts cannot be viewed as something to be accomplished quickly or having an endpoint. It will need to evolve over time to succeed.

#### **Measure of attribute changes:**

Individual model watershed habitat enhancement goals for 1996 Early Action projects were met as identified in 101G. Currently,

the model watersheds are identifying 1997 habitat enhancement goals. All three conservation districts have identified O&M costs from 1996 projects which impact available funding for 1997 enhancement projects, and beyond.

#### **Assessment of effects on project outcomes of critical uncertainty:**

Habitat enhancement projects are new to southeastern Washington. Landowner acceptance on private property will be the key to success of the implementation of watershed planned goals. Continuity of funding is critical to keep the momentum of comprehensive watershed management moving forward; otherwise, the long-term commitment from all local, state and regional entities may be stalled.

#### **Information products:**

Information products are produced on a watershed by watershed basis. Each model watershed is unique and has certain qualities that affect project implementation. All three watersheds utilize water quality monitoring to determine sedimentation, flows, total suspended solids and fecal coliforms. In addition, all three watershed evaluate projects use photo documentation, modeling guidelines, on-site evaluations, and documented results.

#### **Coordination outcomes:**

Coordination outcomes of the project include: improved cooperation among the three model watershed conservation districts; and enhanced coordination of implementation activities among the landowners/operators and each model watershed's Technical Advisory and Landowner Steering committees.

### **MONITORING APPROACH**

The three model watersheds will experiment with many different types of biological engineering designs. These include: root wads, large woody debris placement, point barbs, off-site stock watering devices, planting trees for bank stabilization, and off-channel rearing ponds. Implementation will also include installation of upland and forestland BMPs. Upland and forest practices will be measured by reduced soil erosion and sedimentation reaching the streams. Monitoring and evaluation will produce data which will be compared to data collected in recent surveys.

#### **Provisions to monitor population status or habitat quality:**

The conservation districts involved in the three model watersheds, in cooperation with the Washington Department of Fish & Wildlife, US Forest Service, and the NRCS, are monitoring the status of the target stock, the availability and quality of habitat, and the success of the implemented projects.

#### **Data analysis and evaluation:**

The conservation districts, in cooperation with the model watershed TACs, will act as a gathering and disseminating group for data collected regarding water quality and habitat.

#### **Information feed back to management decisions:**

Information will be made available to the management agencies for review and input for modification. Requested project modification will be reviewed by conservation district supervisors, model watershed TAC and LSC for project modification and implementation.

#### **Critical uncertainties affecting project's outcomes:**

Natural disasters impact the ability to predict project outcomes. In addition, landowner acceptance of new management techniques utilizing bio-engineering techniques, vegetation development, and large woody debris placement are meeting resistance. An extensive information and education program must be maintained to keep landowners and the public informed of the benefits of these new techniques and the status of implemented projects. Committed long term funding would allow the three model watershed conservation districts to work with landowners to develop stable, long-term implementation plans. Landowners are more likely to participate if they can plan for the future.

### **EVALUATION**

The Eastern Washington model watersheds' overall performance is dependent on landowner and public understanding of bio-engineering techniques. Details of plans, implementation, and evaluation of projects will be made available to landowners and

other interested parties. Information/education through newsletters and local media, as well as tours of project areas will be used to highlight project activities. Long term overall project performance will be determined by reduced stream temperatures, reduced sedimentation, and reduced fecal coliforms, and ultimately by an increase in fish populations.

#### **Incorporating new information regarding uncertainties:**

Through mutual agreements utilizing the adaptive management process between all concerned entities.

#### **Increasing public awareness of F&W activities:**

Publication of model watershed newsletters and newspaper articles along with project tours, school involvement in educational projects and presentations, volunteer group involvement in project implementation, and other sources of communication are tools that will be used to increase public awareness.

---

## **RELATIONSHIPS**

### **RELATED BPA PROJECT**

9401800

### **RELATIONSHIP**

Provides funding for implementation of watershed plans in the Asotin Creek, Pataha Creek, and Tucannon River model watersheds

### **RELATED NON-BPA PROJECT**

- 1) Washington State Conservation Commission Water Quality Competitive Grant (Asotin, Pataha, Tucannon);
- 2) Water Quality Implementation Grant (Asotin, Pataha, Tucannon);
- 3) Bonneville Power Administration Model Watershed Habitat Implementation Grants Made Directly to the Asotin, Pomeroy, and Columbia Conservation Districts (Asotin, Pataha, Tucannon)

### **RELATIONSHIP**

- 1) Provides cost-share for implementation;
- 2) Provides technical assistance and cost-share for implementation activities;
- 3) Provides for implementation activities in the three model watersheds

#### **OPPORTUNITIES FOR COOPERATION:**

Each conservation district began their planning by involving the community. Each formed a landowner-based committee, known as the Landowner Steering Committee (LSC), to represent the views and needs of the community. Each district also established a Technical Advisory Committee (TAC) to assist the LSC in meeting their goals. The TACs consist of representatives from the following agencies: USDA NRCS; USFS; WDFW; WDOE; WDNR; WSU-CES; BPA; Inland Power and Light and Clearwater Power Company.

---

## **COSTS AND FTE**

**1997 Planned:** \$153,000

### **FUTURE FUNDING NEEDS:**

<u>FY</u>	<u>\$ NEED</u>	<u>% PLAN</u>	<u>% IMPLEMENT</u>	<u>% O AND M</u>
1998	\$168,000	10%	70%	20%
1999	\$173,000	10%	70%	20%
2000	\$179,000	10%	65%	25%
2001	\$186,000	10%	60%	30%
2002	\$194,000	10%	60%	30%

### **PAST OBLIGATIONS (incl. 1997 if done):**

<u>FY</u>	<u>OBLIGATED</u>
1992	\$100,165
1993	\$38,216
1994	\$19,860
1995	\$122,839
1996	\$113,992
1997	\$159,339

**TOTAL:** \$554,411

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

<b>FY</b>	<b>OTHER FUNDING SOURCE</b>	<b>AMOUNT</b>	<b>IN-KIND VALUE</b>
1998	NRCS technical assistance (Engineering, planning) NRCS Plant Materials Center	riparian plants	\$200,000
1999	NRCS technical assistance (Engineering, planning) NRCS Plant Materials Center	riparian plants	\$200,000
2000	NRCS technical assistance (Engineering, planning)		\$200,000
2001	NRCS technical assistance (Engineering, planning)		\$200,000
2002	NRCS technical assistance (Engineering, planning)		\$200,000

**OTHER NON-FINANCIAL SUPPORTERS:**

List other individuals, agencies, or businesses that support the project or are involved in some way but are not providing direct or in-kind financial support. Other non-financial supporters in the three model watersheds include: area schools, Washington State Department of Fish & Wildlife, County Commissioners, Universities, and group and individual volunteers.

**LONGER TERM COSTS:** \$800,000  
For continued implementation and O&M

**1997 OVERHEAD PERCENT:** 0

**HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:**  
0

**CONTRACTOR FTE:** 0

**SUBCONTRACTOR FTE:** 3 FTEs

---